CLAIMS

1. An information recording apparatus which irradiates a laser light onto a recording medium and forms a recording mark corresponding to a recording signal, comprising:

a light source which emits the laser light;

a signal generating unit which generates a recording pulse signal for driving the light source based on the recording signal; and

a test writing unit which drives the light source based on the recording pulse signal and executes test writing,

wherein the recording pulse signal includes a mark period for forming the recording mark and a space period for forming no recording mark, and

wherein the test writing unit executes the test writing with making a recording power of a long mark constant and varying a recording power of a short mark.

2. The information recording apparatus according to claim 1, wherein the recording power of the long mark is a recording power ensuring reproduction compatibility.

3. The information recording apparatus according to claim 2, wherein the recording power of the long mark is a recording power making a modulation degree within a predetermined range.

4. The information recording apparatus according to claim 1, wherein the recording power of the long mark is a recording power making waveform distortion equal to or smaller than a predetermined value.

5. The information recording apparatus according to claim 1, wherein the recording power of the short mark is a recording power making asymmetry within a range of -0.05 to 0.15.

6. The information recording apparatus according to claim 1, wherein the recording power of the short mark is a recording power making a $\beta$ value of 0.

7. The information recording apparatus according to claim 1, wherein the test writing unit reads a recording mark formed by the test writing, and repeats the test writing until asymmetry and/or a $\beta$ value obtained based on the read recording mark satisfies a predetermined condition.

8. The information recording apparatus according to claim 1, wherein the short mark is a shortest mark and the long mark is a mark other than the short mark.

9. The information recording apparatus according to claim 1, wherein the short mark is a shortest mark and a second shortest mark, and the long mark is a mark other than the short mark.

10. The information recording apparatus according to claim 1, wherein the short mark is a mark which does not have a level of largest magnitude, and the long mark is a mark which has a level of largest magnitude.

11. An information recording method which irradiates a laser light onto a recording medium and forms a recording mark corresponding to a recording signal, comprising:

a signal generation process which generates a recording pulse signal for driving a light source based on the recording signal; and

a test writing process which drives the light source based on the recording pulse signal and executes test writing,

wherein the recording pulse signal includes a mark period for forming the recording mark and a space period for forming no

recording mark, and

wherein the test writing process executes test writing with making a recording power of a long mark constant and varying a recording power of a short mark.

12. An information recording program executed in an information recording apparatus which comprises a light source and irradiates a laser light onto a recording medium to form a recording mark corresponding to a recording signal, and the program making the information recording apparatus execute:

a signal generating process which generates a recording pulse signal for driving the light source based on the recording signal; and

a test writing process which drives the light source based on the recording pulse signal and executes test writing,

wherein the recording pulse signal includes a mark period for forming the recording mark and a space period for forming no recording mark, and

wherein the test writing process executes test writing with making a recording power of a long mark constant and varying a recording power of a short mark.